



# ***Continuity of Terra MODIS Observation SIPS Status***

**Sadashiva Devadiga**

**NASA GSFC**

*Contributions from:*

*SCF: Eric Vermote (PI), Jim Ray*

*MODAPS/STIG: Sudipta Sarkar, Carol Davidson, Rui Zhang, & Maosheng Zhao*

May 1-4, 2023



# Sentinel 3A and 3B: OLCI and SLSTR

- **Earth observation satellite developed by ESA as part of Copernicus program.**
- **Currently consists of two satellites in operation - Sentinel-3A launched in Feb 2016 and Sentinel-3B launched in Apr 2018**
- **Sentinel-3C and Sentinel-3D expected to follow in 2024 and 2028 respectively**
- **Sun-synchronous polar orbiting satellites operating at an altitude of 815km at inclination of 98.6 deg**
- **Equator crossing time is 10:00 am**
- **Ocean and Land Color Instrument (OLCI): 68.5° field of view, nadir pointing, covers a swath width of 1 270 km, full spatial resolution is approximately 300 m.**
- **Sea and Land Surface Temperature Radiometer (SLSTR): swath width of 1400 km at a resolution of 1km.**

May 1-4, 2023



# Sentinel Pilot Study – SIPS Status

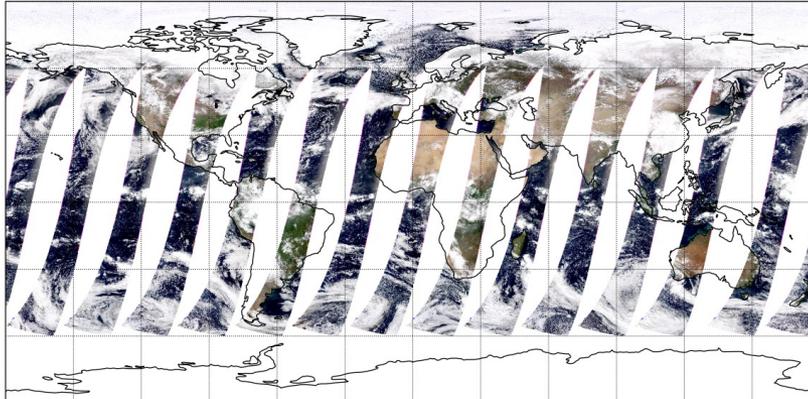
- **L1 Status**
  - Currently ingesting NRT and Standard NTC L1 calibrated radiance products from ESA
  - Standard L1 data is in LAADS archive
  - NRT data accessible from nrt3 and nrt4. Currently only 3-days of global data is hosted. Will size up when ready for operational processing.
  - Most granules are 3-min size. Granules are truncated at end of orbit, so could be much shorter.
- **Code Delivery Status**
  - Science processing code for Corrected Reflectance from L1 SLSTR and OLCI delivered
- **Testing Integration Status**
  - OLCI CR successfully integrated and tested using standard and NRT samples. Production ready code (PGE) is now in science testing
  - SLSTR CR code in integration testing, science code currently being updated to production PGE
- **Production Status**
  - Daily ingest of NRT L1 in progress
  - Operational processing of OLCI & SLSTR CR – expected late May 2023

May 1-4, 2023



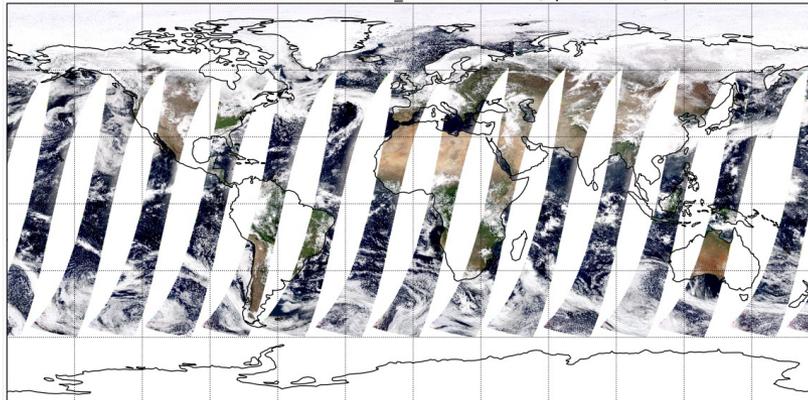
# Corrected Reflectance: OLCI S3A & S3B

C01 Sentinel-A S3ACREFLO\_NRT.A2023114 (April 24, 2023)



**R: O8 0.660 – 0.670**  
**G: O6 0.555 - 0.565**  
**B: O4 0.485 – 0.495**

C01 Sentinel-B S3BCREFLO\_NRT.A2023114 (April 24, 2023)



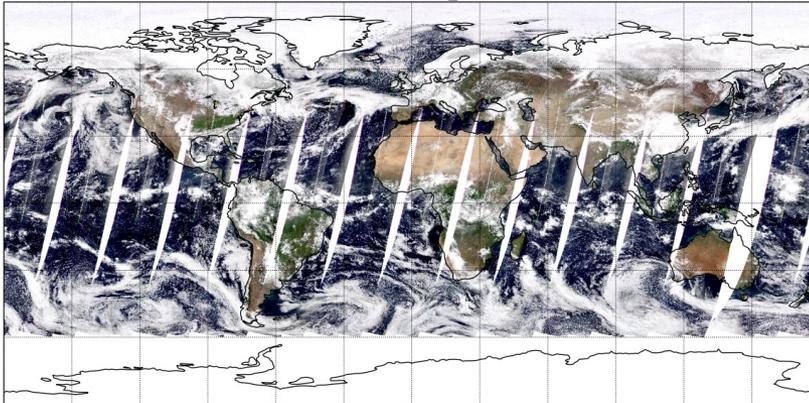
**R: O8 0.660 – 0.670**  
**G: O6 0.555 - 0.565**  
**B: O4 0.485 – 0.495**

May 1-4, 2023



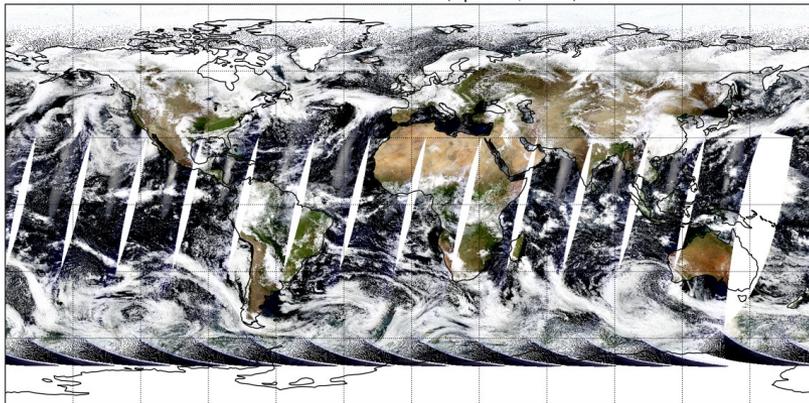
# Corrected Reflectance: S3 OLCI vs T MODIS

C01 Combined Sentinel A&B A3CREFLO\_NRT.A2023114 (April 24, 2023)



**R: O8 0.660 – 0.670**  
**G: O6 0.555 - 0.565**  
**B: O4 0.485 – 0.495**

C61 MOD09.A2023114 (April 24, 2023)

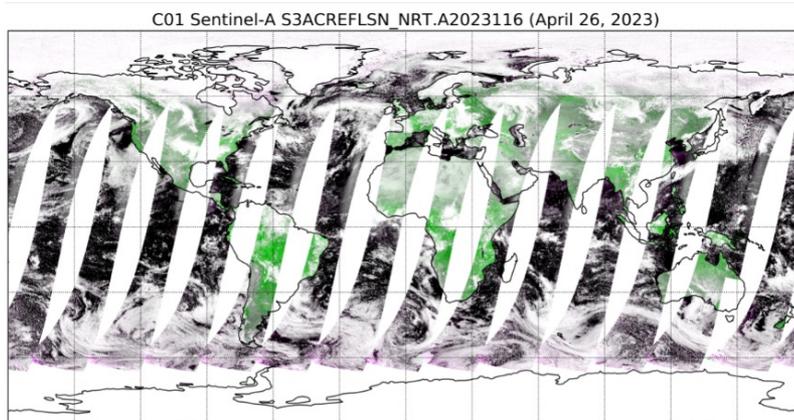


**R: b1 0.620 – 0.670**  
**G: b4 0.545 - 0.565**  
**B: b3 0.459 – 0.479**

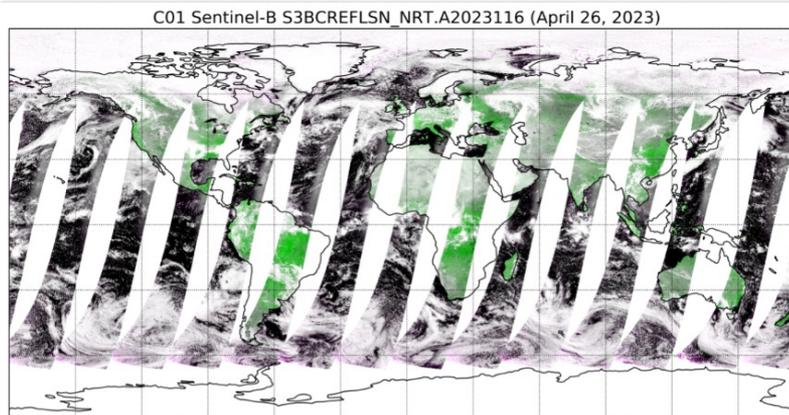
May 1-4, 2023



## Corrected Reflectance: SLSTR S3A & S3B



**R: S2 0.650 – 0.670**  
**G: S3 0.858 - 0.878**  
**B: S2 0.650 – 0.670**

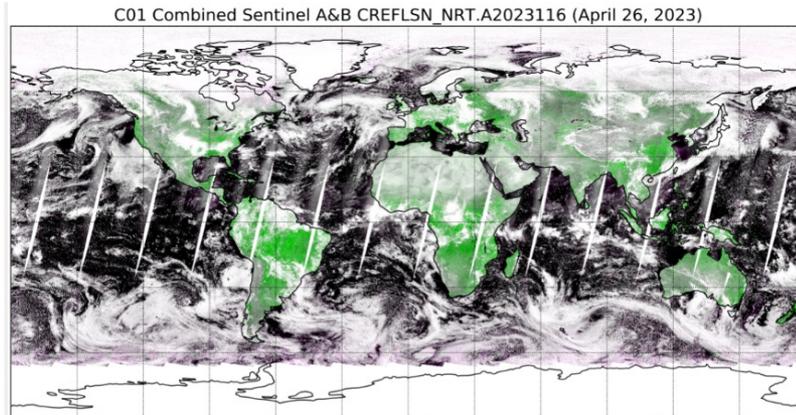


**R: S2 0.650 – 0.670**  
**G: S3 0.858 - 0.878**  
**B: S2 0.650 – 0.670**

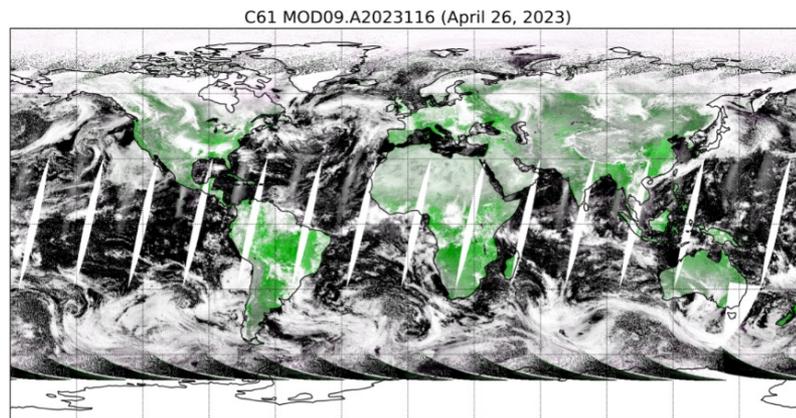
May 1-4, 2023



# Corrected Reflectance: S3 SLSTR vs T MODIS



**R: S2 0.650 – 0.670**  
**G: S3 0.858 - 0.878**  
**B: S2 0.650 – 0.670**



**R: B1 0.620 – 0.670**  
**G: B2 0.841 - 0.876**  
**B: B1 0.620 – 0.670**

May 1-4, 2023